

REMARKS

Upon entry of the present amendment, claims 1-7 will have been amended and claim 8 will have been canceled. Claims 14-16 are submitted for the Examiner's consideration. Further, claims 9-13 will have been withdrawn as the result of a restriction requirement, of which claim 9 will also have been written into independent form.

In the outstanding Official Action, the Examiner rejected claim 8 under 35 U.S.C. § 102(b) as being anticipated by MATSUMOTO (U.S. Patent No. 4,938,551).

The Examiner also rejected claims 1-3, 5 and 7 under 35 U.S.C. §103(a) over SWANSON et al. (U.S. Patent No. 6,191,862) in view of MATSUMOTO.

In addition, the Examiner rejected claim 4 under 35 U.S.C. §103(a) over SWANSON et al. in view of MATSUMOTO as applied to the claims above, and further in view of FERCHER et al. (U.S. Patent No. 6,057,920).

Further, the Examiner rejected claim 6 under 35 U.S.C. §103(a) over SWANSON et al. in view of MATSUMOTO as applied to the claims above, and further in view of TAKEHATA et al. (Japanese Publication No. 7-155291).

The Examiner asserts that SWANSON et al. disclose a polygon mirror (50) and an emission optical element (510). With respect to an incident optical member, Applicants do not understand the Examiner's indication "Fig. 13A optical element prior art to 50". In

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any event, and particularly in view of the amendments to the claims, Applicants respectfully traverse these rejections.

SWANSON et al. disclose a probe module 30 having a one-dimensional or two-dimensional transverse scanning mechanism to scan light laterally along the sample 25 to produce two-dimensional or three-dimensional images (col. 12, lines 22-26). SWANSON et al. also disclose a rotating element 50 and a focusing lens 510, both of which are located in reference arm 41 (see, e.g., Figs. 1E and 13A). The rotating element 50, which functions as an optical path-length scanning unit (OPS), generates a reference return signal 196 that is utilized to adjust optical path length. The rotating element 50 does not function as a polygon mirror that reflects and scans a light beam in a plane perpendicular to the rotational axis thereof and toward an emission optical member which converges the light.

Conversely, in the instant application, the polygon mirror 152 scans a light beam in the main scanning direction, perpendicular to its axis of rotation. That is, light emitted from a distal end of an optical fiber F1 is reflected by a reflecting surface (e.g., M1) of the polygon mirror 152, the light then passing through the emission optical member (e.g., f_θ lens 153) to scan over a scanning line formed on the body cavity wall at a given speed. As the polygon mirror rotates further, the light emitted from the distal end of the optical fiber F1 is reflected by the next reflecting surface (e.g., M2) to form another scanning

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line. As a result, the scanning lines are aligned on the body cavity wall at periodic intervals. This feature is clearly not taught nor contemplated by SWANSON et al.

Further, the supporting mechanism 11 that supports the polygon mirror 152, as well as the incident optical member 151 and the emission optical element 153 are provided in the insertion portion of an endoscope. The positioning in the insertion portion of: 1) the supporting mechanism that supports the polygon mirror; 2) the incident optical member; and 3) the emission optical element, create a stabilizing effect that steadies the insertion portion of the endoscope in order to avoid any undesirable shaking of the insertion portion while performing a two-dimensional OCT scan on an inner wall of a body cavity. Again, this feature is clearly not taught nor contemplated by SWANSON et al. This distinction has been clarified by virtue of the amendment to claim 1. Moreover, SWANSON et al. disclose (col. 13, lines 24-32) that the CAM 50' is a "complex surface" rather than the type of mirror used in scanners. Thus, the rotating element of SWANSON et al. is distinct from the recited polygon mirror having a plurality of reflecting surfaces.

Applicants also disagree with the Examiner's assertion that it would have been obvious to one of ordinary skill to design the reflecting surfaces of the polygon mirror to have a different tilt angle with respect to the center axis. There is no need for SWANSON et al. to incorporate or to have contemplated incorporating a polygon mirror

in which a plurality of reflecting surfaces around the center axis differ from one another in tilt angle. SWANSON et al. explicitly discloses that the rotating element 50 is distinct from commercial embodiments in use [at that time] such as moving mirror embodiments, since the polygon scanners use simple flat mirrors assembled into a polygon, whereas the CAM is a complex surface (col. 13, lines 27-31). Accordingly, the Examiner is respectfully requested to provide support in SWANSON et al. for the naked assertion that one of the points of novelty is obvious. Additionally, there is clearly no motivation in the prior art for the Examiner's proposed modification. More specifically, the Examiner has not pointed out any teaching, in the prior art, for incorporating reflecting surfaces having differing tilt angles with respect to the center axis into the system of SWANSON et al.

By the present response, Applicants have without acquiescing in the propriety of the Examiner's rejection amended claim 1 herein to further clarify the claimed subject matter. Applicants note that claims 1-7 have also been amended cosmetically in order to enhance clarity. Claims 9-13 have been withdrawn as the result of a restriction requirement, and claim 8 has been canceled. In view of the cancellation of claim 8, claim 9 has been written into independent form.

Thus, in view of the amendments and arguments herein, Applicants submit that claim 1 is now in condition for allowance. With regard to dependent claims 2-7, Applicants assert that they are allowable on their own merit, at least because they depend

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either directly or indirectly from independent claim 1, which Applicants have shown to be allowable.

Applicants have also added new claims 14-16 for the Examiner's consideration. Newly added claims 14-16 add no prohibited new matter and recite a feature that is not taught by the references cited by the Examiner.

Thus, it is respectfully submitted that all of the claims in the present application are clearly patentable over the references cited by the Examiner, either alone or in combination, and an indication to such effect is respectfully requested, in due course.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections and objections of the claims, as well as an indication of the allowability of each of the claims, including newly submitted claims 14-16, in view of the herein-contained remarks.

Additionally, Applicants would like to thank the Examiner for acknowledging the claim of priority and indicating that certified copies of the priority documents have been received.

SUMMARY AND CONCLUSION

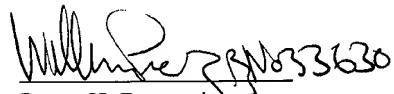
Applicants believe that the present application is in condition for allowance, and respectfully request an indication to that effect. Applicants have amended the claims and argued their allowability. Accordingly, reconsideration of the outstanding Official Action and allowance of the present application and all the recited claims therein are respectfully requested and now believed to be appropriate.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

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